Missouri Education Technology Strategic Plan

2007-2011

NOTE: This draft of the 2007-11 Missouri Education Technology Strategic Plan *(METS) represents revisions/modifications made after the direct mailing to schools in August 2006 and the comments received during the 30-day comment period. The revised plan refers to eight major recommendations for the Department to take in helping districts use technology effectively and efficiently. Goals represent desired outcomes, and are centered on the five Technology Focus Areas of Student Learning, Teacher Preparation, Administration and Data Management, Resource Distribution, and Technical Support. The Essential Conditions and Evidence of Success describe characteristics of successful district/school programs. The Major Implementation Strategies direct DESE action and input. And, the Action Plans detail the steps taken by the Department, begin and end dates, key partners, and examples of strategies and/or proven or evidence-based practices.*

This version of the plan was developed for the February 2007 State Board presentation. The final version of the METSP – complete with full executive summary, glossary of terms, listing of Missouri programs (and acronyms), planning committee rosters, progress chart of the 2002 plan objectives, and more detailed action plans and examples of successful implementation – will be posted on the Department's Instructional Technology website for review and download and to help in the solicitation and dissemination of proven practices.

Please refer feedback and questions relating to this plan to the Department's Instructional Technology section (as detailed in the footer).

Missouri Education Technology Strategic Plan 2007-2011

INTRODUCTION

The Missouri Education Technology Strategic Plan (METSP) is intended to serve as a road map to assist districts in integrating technology in effective and efficient manners. All districts have the mission to provide safe, conducive learning environments for students as they develop the knowledge, skills, and abilities necessary to graduate and be successful in their post-secondary employment, training, and education endeavors – and technology has a critical role in the district's administrative and instructional programs. For successful and seamless integration of technology, districts must establish policy and procedures and detailed action plans. The state education technology plan is intended to be a resource in guiding and facilitating local technology planning, funding, implementation, and evaluation. Also, the Department uses the state education technology plan to help identify and direct technology resources to promote and enhance teaching and learning across the state.

The 2007-11 METSP builds on strengths and weaknesses of the previous five-year plan. The 2007 plan continues to focus on five major technology focus areas, that when addressed, will help districts graduate students prepared to thrive in the 21st Century. The five technology focus areas (TFA) are:

- **S** - Student Learning
- **T** - Teacher Preparation
- **A** - Administration, Data Management, Communications
- **R** - Resource Distribution
- **T** - Technical Support

The Department tracks progress toward meeting METSP goals and objectives through analyses of data collected via the Department's Core Data Collection System, including the Census of Technology (COT), the Missouri School Improvement Program (MSIP), and participation in state and federal programs that advance teaching and learning through the use of technology. It is unlikely that all districts will be able to meet all goals by the same end dates; however, tracking and reporting state-level data helps the Department and districts gauge effectiveness of state and local planning efforts.

The state education plan is viewed as a living document that is reviewed and revised regularly. Department staff and planning committee members expressed commitment in disseminating effective practices related to the plan's goals and objectives. Thus, the 2007 plan will be used as a vehicle to encourage Missouri educators to share practices incorporated in their schools that promote effective and efficient uses of technology. These practices will be warehoused and posted on state technology plan websites hosted by the Department and SuccessLink.

EXECUTIVE SUMMARY

Background

The Department of Elementary and Secondary Education is required to have an approved long-range education technology plan. The first state technology plan was created in 1996 in response to requirements under the Improving America's Schools Act. This plan presented a set of recommendations for effective use of technology in Missouri's districts and highlighted programs and services in place to help support districts.

The state education technology plan was revised in 1997 to incorporate requirements under the Technology Literacy Challenge Fund Act and the U.S. Department of Education's (ED) four technology pillars: computers in classrooms, classrooms connected to the Internet, teacher proficiency in using technology, and teachers and students using technology hardware and software to support rigorous content. The 1997 plan consisted of five major goals (addressing partnership development in addition to the four pillars) and 21 objectives. The Missouri Census of Technology was developed to collect the data used to track progress toward meeting the goals and objectives.

In 2002, a new five-year plan was developed to meet the "15 points" required under the new Title II.D "Enhancing Education through Technology" program enacted by the No Child Left Behind Act. The 2002-2006 plan was developed to meet national plan requirements, to address strengths and weaknesses of the 1997 plan, to help provide a framework that would guide effective district technology planning and implementation. The hallmark of the 2002 plan was development of Missouri's five Technology Focus Areas (TFAs), addressing Student Learning, Teacher Preparation, Administration and Data Management, Resource Distribution, and Technical Support. The 2002 plan included five major goals (the TFAs) and 15 objectives. The objectives delineated what was expected at the state, district, building, and classroom level. The Census of Technology was revised to address the new goals and objectives.

The new five-year plan for 2007-11 builds on the strengths and weaknesses of the 2002 plan, incorporate ED's "15 points" and tries to address new opportunities and challenges that are in place in schools of today and tomorrow. [See appendix for Final Status Report of the 2002-06 plan.]

Plan Fundamentals

A review of the 2002-06 plan indicated several areas of strengths and weaknesses. The major areas of strengths included Missouri's Show-Me Standards, Missouri Assessment Program, and the Missouri School Improvement Program that promote high levels of learning; the creation of National Educational Technology Standards; the variety of data made available to schools for feedback and needs analyses; state support of high-quality professional development and the regional professional development centers; and, the array of programs and services that promote and support district access to and usage of technology (such as the MOREnet Technology

Network Program, the eMINTS professional development programs, and the Technology Leadership Academies).
Areas of weaknesses included some inequities in place within and across districts in terms of technology support and usage. Districts varied in technology-related leadership, financial, technical and instructional support structures. Many administrators and teachers still had beginner skills in using technology. And quality professional development such as eMINTS is not easily accessed and can be very costly.

In addition, the committees identified opportunities and outside pressures that have surfaced since 2002 and/or are projected to occur in the next five years. These include recent adoption of the new high school graduation requirements that promote rigorous content that can be enhanced or made available through the use of technology; the newly enacted Missouri Virtual Instructional Program; new programs such as "e-Learning for Educators" that provides Missouri teachers with quality online professional development; and, the Partnership for 21st Century Schools (P21) and Governor Blunt's METS (mathematics, engineering, technology, and science) initiative that respond to recent concerns about global competitiveness.

Specifically, the Partnership for 21st Century Schools (P21) Framework consists of the following key elements:

- high-profile leadership
- broad consensus and shared vision
- ongoing professional development in 21st century skills
- standards and curriculum aligned with 21st century skills
- 21st century assessments
- effective communication strategy
- aggressive implementation strategy

The Missouri METS (math, engineering, technology, and science) Initiative presents the following recommendations:

- improve performance of all P21 students
- expand pool of students motivated to pursue METS careers
- expand pool of Missouri's quality P-20 METS educators
- establish technology plan to support METS curricula, Grade-Level Expectations (GLEs), and assessments in Missouri
- increase public awareness of the value of METS for all Missouri citizens, and importance of METS-related industries and jobs to enhance Missouri's global competitiveness and innovation

Planning Process

The 2007-11 METSP was developed with assistance and input from over 100 Missouri educators. The planning process and the written document follow the essential elements of a Comprehensive School Improvement Plan, as detailed by MSIP Standard 8.2 and which include: description of the planning process; mission statement, belief, and vision statement; data analysis and gap analysis to identify

strengths and weaknesses; goals, outcomes, or objectives; strategies and action steps; and timeline and responsibility (roles) of implementation and evaluation.

In spring 2005, the Department's Instructional Technology partnered with SuccessLink to oversee development of the 2007. SuccessLink designed and supported an online content management website (wiki) and had staff serve on the steering committee and planning sub-committees. Instructional Technology staff facilitated the planning process through general communication and oversight, soliciting educator input, managing meetings and conference calls, and coordinating planning drafts and revisions.

The steering committee was comprised of SuccessLink and Instructional Technology staffs and 10 district and university educators serving as leaders of the five planning sub-committees. Sub-committees were assigned to work with one of the five Technology Focus Areas (TFAs).

The following outlines the process and timeline used in developing and finalizing the plan.

- February 2005 – SuccessLink agreed to partner with Instructional Technology in overseeing plan development; staffs created initial work plan and identified potential planning sub-committee leaders and members; SuccessLink created wiki website
- March 2005 – oversight committee was formed consisting of Instructional Technology staff, SuccessLink staff, and the TFA team leaders
- May 2005 through July 2006 – steering and planning committees met via face-to-face meetings, conference calls, and email/wiki correspondence; feedback was encouraged and facilitated through the use a wiki, email, *Newsline* updates, and direct school mailings
- August 2006 – based on feedback received, a draft of the plan was mailed to school administrators for 30-day comment period
- October 2006 – steering committee met to review feedback received during the 30-day comment period and revised plan accordingly; revised draft was posted on wiki and Instructional Technology websites; Instructional Technology presented draft obtained further feedback via presentations to education technology groups and MOREnet's Instructional Technology Conference (MITC) pre-conference session

2007 Plan Components

The two concerns most commonly expressed by district leaders before, during, and after the comment periods involved the wording of objectives that started with "Districts shall…" or "Districts will…" and a lack of necessary resources. The steering committee agreed to reformat the draft so that, instead of district goals and objectives, the 2007 presents eight major recommendations for the Department to help districts use technology effectively and efficiently. The recommendations are based on:

- Essential Conditions: characteristics of successful technology integration and implementation
- Department goals: desired outcomes, based on the five TFAs

- Evidence of Success: characteristics of districts/schools with successful programs
- Action Plans: strategies for what the Department will do, with assistance from key stakeholders and partners, in helping districts realize goals
- Plan Format: include in the final draft lists of the planning team members, a glossary of terms and acronyms, and examples of proven/effective practices

Major Recommendations

In essence, the 2007-11 Missouri Education Technology Strategic Plan calls for the Department of Elementary and Secondary Education to act on eight recommendations, centered on the five TFAs, that will assist districts in using technology effectively and efficiently.

The Department will:

1. assist districts in integrating technology into the curriculum and implementing effective research- and inquiry-based instructional strategies, such as the eMINTS instructional model or equivalent, that address student achievement and 21st Century learning
2. assist and support districts in adopting or adapting the NETS*S achievement rubrics or equivalent to promote and monitor student technology literacy
3. partner with key stakeholders to assist districts in using and supporting high quality pre-service and in-service professional development that furthers knowledge, skills, and abilities of educators and assists them in integrating technology into curriculum and inquiry-based instructional strategies
4. assist and support districts in adopting or adapting the NETS*T and NET*A achievement rubrics or equivalent to promote and monitor educator technology literacy
5. assist and support districts in developing and implementing comprehensive local technology plans that support comprehensive school improvement plans
6. assist and support districts in developing policies and procedures for effective use of technology for administration, data management, and communication systems
7. assist districts in establishing and supporting equitable resources
8. assist and support districts in providing sufficient and qualified personnel to provide technical and instructional technology support

VISION and MISSION STATEMENT

Vision
Planning committee members envision a technology enriched learning community, not confined by time or space, which empowers all students to achieve academic success in the 21st century.

As:

Students engage in technology enriched curricula which promotes inquiry-based, hands-on learning. Students take responsibility for their own education success.

Teachers embrace effective techniques to integrate technology throughout the curricula for use by all students, and pursue life-long technology learning.

Administration provides foundational support for teacher integration of technology, appropriate and consistent funding for technology resources, professional-development opportunities, technology-derived data and research –based decisions, and enhanced communication systems supporting instructional and administrative processes.

Resources to facilitate technology use are equitably distributed and available to be used by all students, teachers, staff, and administrators to promote academic achievement.

Technical support and instructional technology staff are adequately funded and readily available to support all education and administration processes.

As **S**tudents, **T**eachers, **A**dministration, **R**esources, and **T**echnical Support interconnect to achieve this Vision, the result is a generation of adults who successfully live, work, and participate in our rapidly changing, information-based society.

Mission Statement
The mission of the state education technology strategic plan is to create a technology enriched learning community, not confined by time or space, which empowers all students to achieve academic success in the 21st century.

ESSENTIAL CONDITIONS

The role of the Missouri Department of Elementary and Secondary Education (DESE) is to serve districts, as they establish and implement the conditions essential for successful teaching and high student academic achievement. Successful district programs, that graduate students with the knowledge, skills, and abilities that ensure their being successful in the 21st Century, require:

- visionary leadership
- strategic long-range plans
- secure and adequate technology budget
- established policies and procedures
- rigorous academic curricula
- well-defined technology integration standards
- high-quality professional development for all educators
- robust administration, data management, and communication systems
- variety of readily accessible resources
- tools for diverse learners
- highly skilled instructional and technical support staff
- continuous investigation of the challenges and opportunities

In short, successful education programs ensure graduates' success in the 21st Century through the use of technology in support of

- personal, academic, and career goals for district students and their educators

STATE RECOMMENDATIONS

The Missouri Education Technology Strategic Plan for 2007-11 directs The Department to take certain steps that support and promote these essential conditions. The Department should:

S 1 assist districts in integrating technology into the curriculum and implementing effective research- and inquiry-based instructional strategies, such as the eMINTS instructional model or equivalent, that address student achievement and 21st Century learning

S 2 assist and support districts in adopting or adapting the NETS*S achievement rubrics or equivalent to promote and monitor student technology literacy

T 1 partner with key stakeholders to assist districts in using and supporting high quality pre-service and in-service professional development that furthers knowledge, skills, and abilities of educators and assists them in integrating technology into curriculum and inquiry-based instructional strategies

T 2 assist and support districts in adopting or adapting the NETS*T and NET*A achievement rubrics or equivalent to promote and monitor educator technology literacy

A 1 assist and support districts in developing and implementing comprehensive local technology plans that support comprehensive school improvement plans

A 2 assist and support districts in developing policies and procedures for effective use of technology for administration, data management, and communication systems

R 1 assist districts in establishing and supporting equitable resources

TS 1 assist and support districts in providing sufficient and qualified personnel to provide technical and instructional technology support

GOALS, EVIDENCE OF SUCCESS, IMPLEMENTATION STRATEGIES, PLANS

(S) Student Learning

Goal

All Missouri students will engage in rigorous instruction driven by technology-enriched curricula to realize high levels of academic achievement and performance that fosters life-long learning.

Evidence of Success

Districts with successful programs have certain characteristics. A successful district enhances student learning by:

- **embedding educational technology standards in local curriculum**
  - the National Educational Technology Standards for Students (NETS*S) or equivalent have been adopted or adapted and aligned with local curriculum and the Show-Me Performance and Content Standards and Grade-Level Expectations (GLEs)

- **implementing a research- and inquiry-based instructional model throughout the curricula**
  - students participate in inquiry-based instructional strategies such as those promoted by the eMINTS program or equivalent
  - curriculum resources are used to inspire educators to use research-based instructional strategies that are powered by technology and engage diverse learners in the excitement of learning through student-centered, collaborative, project-based, and inquiry-based activities, and promote research, problem solving and communication, resulting in improved student performance

- **using technology to deliver instruction and to monitor and assess learning**
  - technology is used to extend and support student learning beyond the school day
  - technology is used to expand student access to rigorous courses (distance learning)
  - technology tools are used to monitor student progress, including use of technology-based assessments in providing immediate feedback, and drive curricular and instructional changes

- **utilizing technology in developing students' 21st century skills**
  - technology integration promotes learning of 21st century skills, as defined by the Framework for 21st Century Learning
  - technology is used to enable/enhance career and post-secondary planning
  - NETS*S achievement rubrics or equivalent are used to regularly monitor student technology literacy (e.g., grades 2, 5, 8 and prior to graduation) to drive curricular change and meet technology literacy requirements under the No Child Left Behind Act (NCLB)

Major Implementation Strategies (MIS)
The Department of Elementary and Secondary Education will:

- **S 1** assist districts in integrating technology into the curriculum and implementing effective research- and inquiry-based instructional strategies, such as the eMINTS instructional model or equivalent, that address student achievement and 21st Century learning

- **S 2** assist and support districts in adopting or adapting the NETS*S achievement rubrics or equivalent to promote and monitor student technology literacy

Action Plan
Unless otherwise stated, action steps refer to work on the part of Department of Elementary and Secondary Education personnel and partnering agencies and programs, in assisting districts to meet state (and local) education technology goals. Please refer to the Glossary for listing of acronyms, programs, and agency/organization partners.

S DESE Action Step	Begin Date	End Date	Examples	Partners
Target funding (state, federal, other) to support state and district technology planning, implementation, and evaluation	ongoing			districts, key stakeholders, and partnering agencies
Support educators in writing and implementing model curriculum units that integrate information and technology skills	7-06	on-going	Training and work to integrate information and technology literacy into the DESE model curriculum units	eMINTS National Center, eMINTS classroom teachers, library media specialists, classroom teachers, instructional technology specialists, curriculum consultants, Regional Instructional Facilitators, SMCAA, RPDCs, and professional development organizations
Disseminate information and effective practices	ongoing		Present information via face-to-face and/or videoconference, and disseminate presentations, documents, and best practices via conference sessions, workshops, newsletters, Internet, and other avenues	MITC, METC, MASL, Interface, and other appropriate venues, *Newsline* articles
Partner with others to support the use of technology to extend student learning beyond the school day	7-06	on-going		MoVIP, Project Lead the Way, A+ Schools, eMINTS, eThemes, Missouri Virtual School, MU High School, CSD/ACT Prep, districts

S DESE Action Step	Begin Date	End Date	Examples	Partners
Continue to support growth of inquiry-based instructional model (such as eMINTS) within and across districts				
Target funds (state, federal, other) to support district efforts to implement and expand inquiry-based instructional projects	ongoing			
Target funds to support eMINTS implementation and expansion efforts	ongoing			eMINTS National Center, instructional specialists, funded districts
Continue grant structures which promote major effective implementation projects	ongoing		Competitive grant requirements on district teaming for building, implementing, and evaluating implementation projects (such as eMINTS)	eMINTS National Center, funded districts
Disseminate information and effective practices	ongoing		Present information via face-to-face and/or videoconference, and disseminate presentations, documents, and best practices via conference sessions, workshops, newsletters, Internet, and other avenues	MITC, METC, MASL, Interface, and other appropriate venues, *Newsline* articles, eMINTS National Center, funded districts, evaluation teams
Support district use of technology to enable and enhance career and post-secondary planning	7-06	on-going		Division Career Education, UMC/IML, MSCA, MoVIP, eLearning, Project Lead the Way, A+ Schools, MoACTE, districts
Continue to support use of rigorous curriculum and high school graduation requirements in traditional and alternative learning environments, through technologies	ongoing		Present information related to virtual education, assistive technology, and digital instructional resources	MoVIP, High Schools that Work, Project Lead the Way, eMINTS National Center, A+ Schools, MoDLA, MRDP
Support and promote use of performance-based evaluation of tools and users	10-06	on-going	embed use of technology in classroom observations conducted for MSIP, annual evaluations (PBTE), etc. Develop tools for collecting, evaluating, and reporting observation findings (e.g., electronic evaluation tools)	School Improvement Program, RPDCs, districts, Teaching and Learning Institute, OSEDA Technology Literacy Initiative, Hallmarks of an Effective eMINTS Classroom, PBTE, PBLMSE, PBCE, SuccessLink, Leadership Academy, STARR Teachers, Regional Instructional Facilitators

S DESE Action Step	Begin Date	End Date	Examples	Partners
Continue to partner with quality professional development providers to offer effective instructional strategies	ongoing		Identify quality providers and programs. Extend breadth and scope of offerings to include technology-mediated solutions (distance learning and assistive technology)	RPDCs, eMINTS National Center, CSD, PBS stations, eLearning for Educators: Mo Project, Teaching and Learning Institute, Southwest Center for Excellence, MoDLA, MRDP, MoVIP
Continue to support and promote educator use of technology to assess and monitor student learning, differentiate instruction, and to communicate expectations, goals, and progress to students, parents, and community	ongoing			RPDCs, Leadership Academy, eMINTS National Center, STARR Teachers, Regional Instructional Facilitators, ISTE, COSN, SETDA
Adopt/adapt NETS*S, NETS*T, and NETS*A achievement rubrics	7-07	12-07		State Board, districts, ISTE
Continue to support district implementation of responsible and safe use of technology	ongoing			
Develop and provide assistance in implementing NETS*S assessment tools to evaluate student literacy in grades 2, 5, 8, and prior to graduation	10-06	7-07		OSEDA Technology Literacy Initiative and pilot districts, SETDA, ISTE, NCREL
Assist in the development and review of technology plans to determine district use of technology literacy assessment to measure progress, and drive curricular and/or professional development changes	ongoing		Create forum for discussing district interest in state measurements to assess technology literacy skills of students, teachers, administrators, support staff, etc.	Technology plan trainers, leaders, and readers
Continue to collect, analyze, and report data to monitor state technology plan progress and drive change (Census of Technology, program records, etc.)	ongoing			district contact persons, program coordinators

GOALS, EVIDENCE OF SUCCESS, IMPLEMENTATION STRATEGIES, PLANS

(T) Teacher Preparation

Goal

All Missouri teachers will implement technology-enriched curricula, research-based instructional strategies, and effective integration of instructional technology systems to realize high levels of academic achievement.

Evidence of Success

Districts with successful programs have certain characteristics. A successful district enhances teacher preparation by:

- **establishing technology standards for educators (teachers and administrators)**
  - the National Educational Technology Standards for Teachers and Administrators (NETS*T and NETS*A) or equivalent have been adopted or adapted and are established in the district's hiring practices and performance evaluations

- **implementing an inquiry-based instructional model throughout the curricula**
  - educators are prepared to implement inquiry-based instructional strategies such as those promoted by the eMINTS program or equivalent
  - teachers use curriculum and instructional resources in delivering instructional strategies that are powered by technology and engage diverse learners in the excitement of learning through student-centered, collaborative, project-based, and inquiry-based activities, and promote research, problem solving and communication, resulting in improved student performance
  - district provides in-class instructional support and assistance in integration of technology throughout the curricula
  - technology is used to provide student access to rigorous courses (distance learning)

- **using technology to deliver instruction and to monitor and assess learning**
  - educators are prepared to use technology to provide student access to rigorous courses (through distance learning, for example)
  - technology is used to track and monitor student progress, including use of technology-based assessments in providing immediate feedback, and drive curricular and instructional changes

- **using technology to deliver instruction and to monitor and assess professional development**
  - educators are provided with high-quality professional development that is powered by technology (such as, but not limited to, interactive white boards, handhelds, distance learning)

  - professional development addresses use of district-adopted tools that help educators set personal achievement and academic goals, including improving technology and integration skills
  - technology is used to provide access to rigorous graduate coursework and professional development workshops (online professional development, for example)
  - professional development promotes highly-qualified educators and meets high-quality professional development standards, as required under NCLB

- **using technology in assessing and developing educator technology literacy**
  - the NETS*T and NETS*A achievement rubrics or equivalent are used to monitor educator technology literacy and drive professional development change and meet goals established by NCLB
  - educators are provided access to instructional technology support such as, but not limited to, personnel, multimedia and print resources, and online classes

Major Implementation Strategies (MIS)
The Department of Elementary and Secondary Education will:

T 1 partner with key stakeholders to assist districts in using and supporting high quality pre-service and in-service professional development that furthers knowledge, skills, and abilities of educators and assists them in integrating technology into curriculum and inquiry-based instructional strategies

T 2 assist and support districts in adopting or adapting the NETS*T and NET*A achievement rubrics or equivalent to promote and monitor educator technology literacy

Action Plan
Unless otherwise stated, action steps refer to work on the part of Department of Elementary and Secondary Education personnel and partnering agencies and programs, in assisting districts to meet state (and local) education technology goals. Please refer to the Glossary for listing of acronyms, programs, and agency/organization partners.

T DESE Action Step	Begin Date	End Date	Examples	Partners
Target funds (state, federal, other) to support state and district technology planning, implementation, and evaluation	ongoing			districts, key stakeholders, and partnering agencies

T DESE Action Step	Begin Date	End Date	Examples	Partners
Support educators in writing and implementing model curriculum units integrating information and technology skills	7-06	on-going		eMINTS National Center, eMINTS classroom teachers, library media specialists, classroom teachers, instructional technology specialists, curriculum consultants, Regional Instructional Facilitators, SMCAA, RPDCs, and professional development organizations
Present information via face-to-face and/or videoconference, and disseminate presentations, documents, and best practices via conference sessions, workshops, newsletters, Internet, and other avenues	ongoing			MITC, METC, MASL, Interface, and other appropriate venues, *Newsline* articles
Support implementation of inquiry-based instruction in districts				
Promote funding of grant programs (formula and competitive) that support district implementation of inquiry-based instructional projects	ongoing			
Continue grant structures that promote district teaming for building, implementing, and evaluating projects	ongoing			
Disseminate information of best practices via presentations, newsletters, and other avenues	ongoing			MITC, METC, MASL, Interface, and other appropriate venues, *Newsline* articles, funded districts, evaluation teams
Continue to support growth of eMINTS instructional model within and across districts				

T DESE Action Step	Begin Date	End Date	Examples	Partners
Target state and federal funds to support eMINTS implementation and expansion efforts	ongoing			eMINTS National Center, instructional specialists, funded districts
Continue grant structures that require and support district teaming for building, implementing, and evaluating eMINTS implementation projects	ongoing			eMINTS National Center, funded districts
Disseminate information of best practices via presentations, newsletters, and other avenues	ongoing			MITC, METC, MASL, Interface, and other appropriate venues, *Newsline* articles, eMINTS National Center, funded districts, evaluation teams
Continue to research eMINTS impact data of diverse learners	ongoing			eMINTS National Center, funded districts, evaluation teams, Speech to Text project (Division Special Education)
Continue to support use of rigorous curriculum and high school graduation requirements in traditional and alternative learning environments, through technologies	ongoing		Present information on virtual education, assistive technology, and digital instructional resources	MoVIP, High Schools that Work, Project Lead the Way, eMINTS National Center, A+ Schools, MoDLA, MRDP
Support and promote use of performance-based evaluation of tools and users	10-06	on-going	Embed use of technology in classroom observations conducted for MSIP, annual evaluations (PBTE), etc. Develop tools for collecting, evaluating, and reporting observation findings (e.g., electronic evaluation tools)	School Improvement Program, RPDCs, districts, Teaching and Learning Institute, OSEDA Technology Literacy Initiative, Hallmarks of an Effective eMINTS Classroom, PBTE, PBLMSE, PBCE, SuccessLink, Leadership Academy, STARR Teachers, Regional Instructional Facilitators
Continue to partner with quality professional development providers on effective instructional strategies, including technology mediated solutions (distance learning and assistive technology)	ongoing			RPDCs, eMINTS National Center, CSD, PBS stations, eLearning for Educators: Mo Project, Teaching and Learning Institute, SW Ed Tech Center - Webb City, MoDLA, MRDP, MoVIP

T DESE Action Step	Begin Date	End Date	Examples	Partners
Continue to support and promote educator use of technology to assess and monitor student learning, differentiate instruction, and to communicate expectations, goals, and progress to students, parents, and community	ongoing			RPDCs, Leadership Academy, eMINTS National Center, STARR Teachers, Regional Instructional Facilitators, ISTE, COSN, SETDA
Adopt/adapt NETS*S, NETS*T, and NETS*A achievement rubrics	7-07	12-07		State Board, districts, ISTE
Continue to support district implementation of responsible and safe use of technology	ongoing		Inform and train teachers in safe and effective use. Promote NetSmartz and iSAFE programs.	iSAFE, (Missouri Safe Schools/RPDCs), NetSmartz (MOREnet), ISTE, COSN
Develop and provide assistance in implementing NETS*S assessment tools to evaluate student literacy in grades 2, 5, 8, and prior to graduation	10-06	7-07		OSEDA Technology Literacy Initiative and pilot districts, SETDA, ISTE, NCREL
Assist in development and review of technology plans to determine district use of technology literacy assessment to measure progress, and drive curricular and/or professional development changes	ongoing			technology plan trainers, leaders, and readers
Work with partners to promote adoption/ adaptation of NETS*T and NETS*A in state teacher education programs, and to drive review and revision of accreditation standards	ongoing			Department of Higher Education, Institutes of Higher Education (Teacher Education Programs), Leadership Academy, Certification and Accreditation entities (such as MACTE and MACE), ISTE, NCREL
Continue to collect, analyze, and report data to monitor state technology plan progress and drive change (Census of Technology, program records)	ongoing			district contact persons, program coordinators

GOALS, EVIDENCE OF SUCCESS, IMPLEMENTATION STRATEGIES, PLANS

(A) Administration, Data Management, Communications

Goal

All Missouri districts will implement effective and efficient administration, data management, and communication processes through the use of technology and further support teaching and learning.

Evidence of Success

Districts with successful programs have certain characteristics. A successful district enhances administration, data management, and communication by:

- **having a comprehensive, long-range plan for using technology**
  - district maintains a broad, diverse committee that oversees technology planning, implementation, and evaluation
  - committee reviews plan regularly (at least once a year) to monitor progress and drive improvements

- **having administrative, data management, and communication policies/ procedures**
  - district planning committee establishes, adopts, or adapts policy and procedures for effective, efficient, safe, and secure use of technology tools and resources (such as, but not limited to, network security, risk assessment, disaster recovery, distance learning, acceptable use, mobile security for handhelds, wireless network)
  - committee establishes essential hardware, software, connectivity, resource distribution, and technical support standards (such as, but not limited to, adequate bandwidth where typical, every-day use does not exceed 70% of capacity, Gartner Group Business Standards, replacement cycle)

- **establishing secure, adequate technology budget**
  - funding is earmarked (e.g., line item) for technology, using a set percentage rate of the overall budget or a per-pupil expenditure sufficient to cover TCO (total cost of ownership for connectivity/infrastructure; acquisition, maintenance/upkeep, replacement/expansion; software; facility/infrastructure; recovery and security systems; training and support)
  - budget policy addresses technology support (district personnel or contracted service)
  - budget policy allocates 25% of the technology budget for professional development activities including effective use of evaluation systems
  - local technology budget is extended through E-Rate discounts for approved services

- **providing and supporting appropriate technology administrative systems**
  - district establishes infrastructure with robust systems that help improve efficiency and productivity of managerial and administrative tasks (such as networking, Internet connectivity, etc.)

- **providing and supporting appropriate data management tools**
  - appropriate technology tools are used to facilitate information and data collection and storage, analysis, and reporting (such as, but not limited to, comprehensive student information systems)

- **providing and supporting appropriate communication tools**
  - district determines appropriate tools to be supported and used to promote two-way communication within the community (such as websites, blogs, email, podcasts, autodialers, voice mail, online surveys, etc.)

Major Implementation Strategies (MIS)
The Department of Elementary and Secondary Education will:

A 1 assist and support districts in developing and implementing comprehensive local technology plans that support comprehensive school improvement plans

A 2 assist and support districts in developing policies and procedures for effective use of technology for administration, data management, and communication systems

Action Plan
Unless otherwise stated, action steps refer to work on the part of Department of Elementary and Secondary Education personnel and partnering agencies and programs, in assisting districts to meet state (and local) education technology goals. Please refer to the Glossary for listing of acronyms, programs, and agency/organization partners.

A DESE Action Step	Begin Date	End Date	Examples	Partners
Target funds (state, federal, other) to support district technology budgets (supporting district and state infrastructure and TCO, and local, state, and national standards)	ongoing			districts
Work with districts to promote line item budget, per pupil, etc.	1-07	7-11		
Work with partners to develop and support essential hardware, software, connectivity, and technical support standards	10-06	7-11		district technology coordinators, advisory council, MSIP, TNP, COSN, ISTE

A DESE Action Step	Begin Date	End Date	Examples	Partners
Continue to require minimum of 25% of state and federal technology funds to support professional development	ongoing			districts and providers
Support and promote effective policies and procedures to facilitate administration, data management, and communication	ongoing			districts, MSBA, MUSC, MOREnet, COSN
Support districts in complying with all state and federal guidelines	ongoing		HIPAA, FERPA, CIPA, etc.	
Support districts in establishing disaster recovery and security policies and procedures	ongoing			
Continue to promote state network and MOREnet Network Program (TNP)				
Target state/federal/ E-rate funds to support TNP implementation and expansion	ongoing			districts, MOREnet, MOREnet Council, State Library, Department of Higher Education
Continue TNP structure providing resources and services including and beyond bandwidth	ongoing		Promote access and use of electronic resources, filtering solutions, security and safety solutions, communication tools, training, technical support, and research and development	districts, MOREnet, MOREnet Council, State Library, Department of Higher Education
Disseminate information of best practices via presentations, newsletters, and other avenues	ongoing			MOREnet, MOREnet Council, State Library, Department of Higher Education, MITC, METC, MASL, Interface, and other appropriate venues, *Newsline* articles, districts
Promote and support budget for technology (line item, per pupil)	ongoing			
Continue to collect, analyze, and report data to monitor state technology plan progress and drive change (Census of Technology, program records, etc.)	ongoing			district contact persons, program coordinators

GOALS, EVIDENCE OF SUCCESS, IMPLEMENTATION STRATEGIES, PLANS

(R) Resource Distribution

Goal
All district personnel and students will have equitable access to technology tools and resources to promote professional and academic performance.

Evidence of Success
Districts with successful programs have certain characteristics. A successful district enables resource distribution by:

- **providing equitable access to varied, numerous technology tools and resources that promote differentiated instruction**
  - appropriate resources are identified and supported to meet needs of diverse school personnel and student learners
  - digital resources and assistive technologies are provided for traditional and alternative learning environments, available any time, any place

- **using appropriate tools to determine district needs and monitor progress**
  - data collection, analysis, and reporting tools are identified and supported to help track student outcomes and drive administrative and instructional changes
  - frequent reviews (internal and external monitoring and evaluation) of technology plan are conducted to evaluation implementation and progress

- **establishing and supporting essential hardware, software, and connectivity standards**
  - needs assessment tools are identified and supported to establish and update standards for the technology tools and resources being used by district personnel and students

Major Implementation Strategy (MIS)
The Department of Elementary and Secondary Education will:

R 1 assist districts in establishing and supporting equitable resources

Action Plan
Unless otherwise stated, action steps refer to work on the part of Department of Elementary and Secondary Education personnel and partnering agencies and programs, in assisting districts to meet state (and local) education technology goals. Please refer to the Glossary for listing of acronyms, programs, and agency/organization partners.

R DESE Action Step	Begin Date	End Date	Examples	Partners
Target funds (state, federal, other) to support state and district technology planning, implementation, and evaluation	ongoing			districts, key stakeholders, and partnering agencies
Adopt/adapt NETS*S, NETS*T, and NETS*A achievement rubrics	7-07	12-07		State Board, districts, ISTE
Continue to support district implementation of responsible and safe use of technology	ongoing			iSAFE, (Missouri Safe Schools/RPDCs), NetSmartz (MOREnet), ISTE, COSN
Develop and provide assistance in implementing NETS*S assessment tools to evaluate student literacy in grades 2, 5, 8, and prior to graduation	10-06	7-07		OSEDA Technology Literacy Initiative and pilot districts, SETDA, ISTE, NCREL
Assist in the development and review of technology plans to determine district use of technology literacy assessment to measure progress, and drive curricular and/or professional development changes	ongoing		Promote technology literacy of students, teachers, administrators, support staff, etc.	Technology plan trainers, leaders, and readers
Continue to support inquiry-based instructional model across districts				
Target state and federal funds to support implementation and expansion of inquiry-based models (such as eMINTS)	ongoing			eMINTS National Center, instructional specialists, funded districts
Continue grant structures that require district teaming for building, implementing, and evaluating implementation projects	ongoing			eMINTS National Center, funded districts

R DESE Action Step	Begin Date	End Date	Examples	Partners
Disseminate information of best practices via presentations, newsletters, and other avenues	ongoing			MITC, METC, MASL, Interface, and other appropriate venues, *Newsline* articles, eMINTS National Center, funded districts, evaluation teams
Continue to research impact data of inquiry-based models on diverse learners	ongoing			eMINTS National Center, funded districts, evaluation teams, Speech to Text project (Division Special Education)
Continue to support use of rigorous curriculum and high school graduation requirements in traditional and alternative learning environments, through technologies	ongoing		Identify and promote virtual education, assistive technology, and digital instructional resources	MoVIP, High Schools that Work, Project Lead the Way, eMINTS National Center, A+ Schools, MoDLA, MRDP
Support and promote use of performance-based evaluation of tools and users	10-06	On-going	embed use of technology in classroom observations conducted for MSIP, annual evaluations (PBTE), etc. Develop tools for collecting, evaluating, and reporting observation findings (e.g., electronic evaluation tools)	School Improvement Program, RPDCs, districts, Teaching and Learning Institute, OSEDA Technology Literacy Initiative, Hallmarks of an Effective eMINTS Classroom, PBTE, PBLMSE, PBCE, SuccessLink, Leadership Academy, STARR Teachers, Regional Instructional Facilitators
Continue to partner with quality professional development providers on effective instructional strategies, including technology mediated solutions (distance learning and assistive technology)	ongoing			RPDCs, eMINTS National Center, CSD, PBS stations, eLearning for Educators: Mo Project, Teaching and Learning Institute, Southwest Center for Excellence, MoDLA, MRDP, MoVIP
Continue to support and promote educator use of technology to assess and monitor student learning, differentiate instruction, and to communicate expectations, goals, and progress to students, parents, and community	ongoing			RPDCs, Leadership Academy, eMINTS National Center, STARR Teachers, Regional Instructional Facilitators, ISTE, COSN, SETDA

GOALS, EVIDENCE OF SUCCESS, IMPLEMENTATION STRATEGIES, PLANS

(TS) Technical Support

Goal
All district personnel and students will have adequate technical support to effectively use administrative and instructional technologies.

Evidence of Success
Districts with successful programs have certain characteristics. A successful district enables technical support by:

- **providing effective technology leadership**
  - district employs, designates, or contracts a leader to coordinate and direct district technology program
  - technology coordinator oversees district instructional and administrative technologies (including, but not limited to, network, computers, and non-computer technology such as telephony, audio/video applications, etc.)

- **providing adequate instructional support for technology users**
  - district employs, designates, or contracts qualified instructional support person (with classroom teaching/technology integration expertise) one FTE per 50 educators
  - personnel provide instructional technology professional development, in-class instructional support, and assistance in integration of technology throughout the curricula

- **providing adequate technical support for technology users**
  - district employs, designates, or contracts qualified technical support (with technical certifications, specialized training, college or technical degrees, work-related experience, etc.): one FTE per 250 computing devices
    (variations: one FTE per 300 desk top computers, per 150 laptop computers, per 500 handheld computer, per 100 blackberries/smart phones)
  - personnel resolve 80% of typical technical problems within three working days

Major Implementation Strategy (MIS)
The Department of Elementary and Secondary Education will:

TS 1 assist and support districts in providing sufficient and qualified personnel to provide technical and instructional technology support

Action Plan
Unless otherwise stated, action steps refer to work on the part of Department of Elementary and Secondary Education personnel and partnering agencies and programs, in assisting districts to meet state (and local) education technology goals. Please refer to the Glossary for listing of acronyms, programs, and agency/organization partners.

TS DESE Action Step	Begin Date	End Date	Examples	Partners
Target funds (state, federal, other) to support state and district technology planning, implementation, and evaluation	ongoing			districts, key stakeholders, and partnering agencies
Adopt/adapt NETS*S, NETS*T, and NETS*A achievement rubrics	7-07	12-07		State Board, districts, ISTE
Continue to support district implementation of responsible and safe use of technology	ongoing			iSAFE, (Missouri Safe Schools/RPDCs), NetSmartz (MOREnet), ISTE, COSN
Develop and provide assistance in implementing NETS*S assessment tools to evaluate student literacy in grades 2, 5, 8, and prior to graduation	10-06	7-07		OSEDA Technology Literacy Initiative and pilot districts, SETDA, ISTE, NCREL
Assist in the develop-ment and review of technology plans to determine district use of technology literacy assessment (for students, teachers, administrators, support staff, etc.) to measure progress, and drive curricular and/or professional development changes	ongoing			Technology plan trainers, leaders, and readers
Continue to support inquiry-based instructional model (such as eMINTS) across districts				
Target state and federal funds to support inquiry-based implementation and expansion efforts	ongoing			eMINTS National Center, instructional specialists, funded districts
Continue grant structures that require district teaming for building, implementing, and evaluating implementation projects (such as eMINTS)	ongoing			eMINTS National Center, funded districts

TS DESE Action Step	Begin Date	End Date	Examples	Partners
Disseminate best practices information of via presentations, newsletters, and other avenues	ongoing			MITC, METC, MASL, Interface, and other appropriate venues, *Newsline* articles, eMINTS National Center, funded districts, evaluation teams
Continue to research impact data of inquiry-based models on diverse learners	ongoing			eMINTS National Center, funded districts, evaluation teams, Speech to Text project (Division Special Education)
Continue to support use of rigorous curriculum and high school graduation requirements in traditional and alternative learning environments,	ongoing		promote technologies such as virtual education, assistive technology, and digital instructional resources	MoVIP, High Schools that Work, Project Lead the Way, eMINTS National Center, A+ Schools, MoDLA, MRDP
Support and promote use of performance-based evaluation of tools and users,	10-06	on-going	embed use of technology in classroom observations conducted for MSIP, annual evaluations (PBTE), etc. Develop tools for collecting, evaluating, and reporting observation findings (e.g., electronic evaluation tools)	School Improvement Program, RPDCs, districts, Teaching and Learning Institute, OSEDA Technology Literacy Initiative, Hallmarks of an Effective eMINTS Classroom, PBTE, PBLMSE, PBCE, SuccessLink, Leadership Academy, STARR Teachers, Regional Instructional Facilitators
Continue to partner with quality professional development providers on effective instructional strategies, including technology mediated solutions (distance learning and assistive technology)	ongoing			RPDCs, eMINTS National Center, CSD, PBS stations, eLearning for Educators: Mo Project, Teaching and Learning Institute, Southwest Center for Excellence, MoDLA, MRDP, MoVIP
Continue to support and promote educator use of technology to assess and monitor student learning, differentiate instruction, and to communicate expectations, goals, and progress to students, parents, and community	ongoing			RPDCs, Leadership Academy, eMINTS National Center, STARR Teachers, Regional Instructional Facilitators, ISTE, COSN, SETDA
Target funds to support district technology budgets	ongoing		Promote funding to support district and state infrastructure and TCO, based on local, state, and national standards	districts

TS DESE Action Step	Begin Date	End Date	Examples	Partners
Help schools create line item budget for technology	Ongoing		Setting a per-pupil expenditure rate, a flat percent of total operating budget, other	districts, MSIP, Prime Vendor, Office of Administration, State Library, ISTE, COSN, Department of Higher Education, and other hardware, software, and support providers
Work with partners to develop and support essential hardware, software, connectivity, and technical support standards	10-06	7-11		district technology coordinators, advisory council, MSIP, TNP, COSN, ISTE
Continue to require minimum of 25% of state and federal technology funds to support technology professional development	Ongoing			districts and providers
Promote effective implementation and evaluation policies and procedures to facilitate administration, data management, and communication	Ongoing			districts, MSBA, MUSC, MOREnet, COSN
Support districts in complying with state and federal guidelines	Ongoing		HIPAA, FERPA, CIPA, etc.	
Support districts in establishing disaster recovery and security policies / procedures	Ongoing			
Partner to secure and support state-wide digital resources to support instruction and administration	Ongoing			
Partner to identify and promote technical support standards and benchmarks	10-06	7-11	numbers and credentials of personnel providing technical support, instructional support, and professional development	district technology coordinators, MSIP, advisory council, certification and accreditation entities and related professional organizations (such as MACTE, MoACTE, METPA, MoDLA, MACE)
Continue to collect, analyze, and report data to monitor state technology plan progress and drive change	ongoing		Census of Technology, program records, etc.	district contact persons, program coordinators